

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	13	"6528486"	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 11:53
L2	2	l1 and heterologous	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 11:54
L3	0	l1 and signal adj sequence	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 11:54
L4	6	l1 and signal	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 11:54
L5	507	glp and heterologous	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 11:55
L6	0	l5 and heterolous adj sequence	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 11:55
L7	0	l5 and heterolous same sequence	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 11:55
L8	0	l5 and heterolous same seq\$	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 11:56
L9	484	l5 and sequence	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 11:57
L10	0	l9 and heterolous near sequence	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 11:57
L11	0	l9 and heterolous same sequence	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 11:58
L12	0	l9 and heterolous and sequence	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 11:58
L13	0	glp and heterolous adj sequence	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 11:58
L14	0	glp and heterolous	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 11:58
L15	83	glp and heterologous adj sequence	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 11:59

L16	47	l15 and diabetes	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 11:59
L17	42	l16 and analog\$	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 11:59
L18	1	l17 and @py<"2001"	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 12:00
L19	3	l17 and @py<"2003"	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 16:11
L20	13	l17 and @py<"2004"	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 12:05
L21	306	l9 and fusion adj protein	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 12:06
L22	5	l21 and gly8	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 12:08
L23	47	l21 and @py<"2002"	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 12:08
L24	30	l21 and @py<"2001"	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 12:09
L25	7649	heterologous adj sequence	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 12:10
L26	83	l25 and glp	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 12:10
L27	8	l26 and @py<"2002"	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 12:14
L28	22	gly8 and glp	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 12:14
L29	4	l28 and @py<"2002"	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 15:25
L30	21	l25 and preproglu\$	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 12:54
L31	229	preproglu\$	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 12:55

L32	70	l31 and @py<"2002"	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 12:55
L33	46	l32 and glp	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 12:55
L34	34	l33 and @py<"2001"	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 12:55
L35	26	l33 and @py<"2000"	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 13:03
L36	0	l32 and glp8	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 13:03
L37	4	l32 and glp near "8"	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 13:03
L38	5	"6468756"	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 15:25
L39	5	l38 and diabetes	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 15:25
L40	252	johnson adj jeffrey	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 16:12
L41	4	zhou adj yun near ping	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 16:13
L42	253	l40 l41	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 16:13
L43	1	l42 and glp	US-PGPUB; USPAT; DERWENT	OR	ON	2006/01/26 16:13

=> d his

(FILE 'HOME' ENTERED AT 15:52:07 ON 26 JAN 2006)

FILE 'CAPLUS, MEDLINE, BIOSIS' ENTERED AT 15:52:29 ON 26 JAN 2006

L1	1310 S HETEROLOGOUS (1W) SEQUENCE
L2	8337 S GLP
L3	1 S GLP8
L4	3 S L1 (L) L2
L5	3 DUP REM L4 (0 DUPLICATES REMOVED)
L6	15 S GLP (1W) 8
L7	6 DUP REM L6 (9 DUPLICATES REMOVED)

L5 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2006 ACS on STN
 TI Methods of treating diabetes and other blood sugar disorders by
 glucagon-like peptide 1 gene or cell therapy for reducing serum
 triglycerides and reducing lipid accumulation in liver
 PY 2005
 IN Wadsworth, Samuel; Armentano, Donna; Gregory, Richard J.; Parsons,
 Geoffrey
 SO U.S. Pat. Appl. Publ., 70 pp.
 CODEN: USXXCO
 IT Nucleic acids
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological
 study); PREP (Preparation); USES (Uses)
 (encoding GLP-1 precursor linked to **heterologous**
 signal **sequence**; treating diabetes and other blood sugar
 disorders by glucagon-like peptide 1 gene or cell therapy for reducing
 serum triglycerides and reducing lipid accumulation in liver)
 IT DNA
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological
 study); PREP (Preparation); USES (Uses)
 (for GLP-1 precursor linked to **heterologous** signal
sequence; treating diabetes and other blood sugar disorders by
 glucagon-like peptide 1 gene or cell therapy for reducing serum
 triglycerides and reducing lipid accumulation in liver)

L5 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2006 ACS on STN
 TI Sequences of human glucagon-like 1 peptide (GLP-1) and use for treating
 diabetes and other blood sugar disorders
 PY 2004
 2004
 IN Wadsworth, Samuel C.; Armentano, Donna; Gregory, Richard J.; Parsons,
 Geoffrey
 SO U.S. Pat. Appl. Publ., 56 pp., Cont.-in-part of U.S. Ser. No. 215,272.
 CODEN: USXXCO
 AB The invention provides sequences of a precursor glucagon-like peptide 1 (
 GLP-1) comprising human GLP-1 linked to a
heterologous signal **sequence**. The invention also
 relates to a method of promoting insulin production in an individual
 comprising administering to the individual an effective amount of a nucleic
 acid encoding a precursor GLP-1. The present invention also
 relates to a method of treating an individual having a blood sugar defect
 (e.g., type I or type II diabetes), comprising administering to the
 individual an effective amount of a nucleic acid encoding the precursor
 GLP-1. In a particular embodiment, the invention pertains to a
 method of treating an individual having a blood sugar defect sugar defect
 comprising administering to the individual an effective amount of a nucleic
 acid encoding a precursor GLP-1 wherein the precursor
 GLP-1 comprises a signal sequence which codes for precursor
 cleavage at the activation cleavage site of the precursor GLP-1.

L5 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2006 ACS on STN
 TI Sequences of human glucagon-like 1 peptide (GLP-1) and use for treating
 diabetes and other blood sugar disorders
 PY 2003
 2005
 2005
 IN Wadsworth, Samuel C.; Armentano, Donna; Gregory, Richard J.; Parsons,
 Geoffrey
 SO PCT Int. Appl., 69 pp.
 CODEN: PIXXD2
 AB The invention provides sequences of a precursor glucagon-like peptide 1 (
 GLP-1) comprising human GLP-1 linked to a
heterologous signal **sequence**. The invention also
 relates to a method of promoting insulin production in an individual
 comprising administering to the individual an effective amount of a nucleic
 acid encoding a precursor GLP-1. The present invention also
 relates to a method of treating an individual having a blood sugar defect

(e.g., type I or type II diabetes), comprising administering to the individual an effective amount of a nucleic acid encoding the precursor GLP-1. In a particular embodiment, the invention pertains to a method of treating an individual having a blood sugar defect sugar defect comprising administering to the individual an effective amount of a nucleic acid encoding a precursor GLP-1 wherein the precursor GLP-1 comprises a signal sequence which codes for precursor cleavage at the activation cleavage site of the precursor GLP-1.

=> d 13

L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:44295 CAPLUS
DN 130:219004
TI Arabidopsis thaliana contains a large family of germin-like proteins:
characterization of cDNA and genomic sequences encoding 12 unique family
members
AU Carter, Clay; Graham, Richard A.; Thornburg, Robert W.
CS Department of Biochemistry and Biophysics, Iowa State University, Ames,
IA, 50011, USA
SO Plant Molecular Biology (1998), 38(6), 929-943
CODEN: PMBIDB; ISSN: 0167-4412
PB Kluwer Academic Publishers
DT Journal
LA English
RE.CNT 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s glp (1w) 8

L6 15 GLP (1W) 8

=> dup rem l6

PROCESSING COMPLETED FOR L6

L7 6 DUP REM L6 (9 DUPLICATES REMOVED)

=> d l7 1-6 ti py au so kwic

L7 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 1
TI The importance of the nine-amino acid C-terminal sequence of exendin-4 for
binding to the GLP-1 receptor and for biological activity
PY 2003
AU Doyle, Maire E.; Theodorakis, Michael J.; Holloway, Harold W.; Bernier,
Michel; Greig, Nigel H.; Egan, Josephine M.
SO Regulatory Peptides (2003), 114(2-3), 153-158
CODEN: REPPDY; ISSN: 0167-0115
AB . . . The addition of this nine-AA sequence to GLP-1 improved the affinity
of both GLP-1 and the DPP IV resistant analog GLP-1 8
-glycine for the GLP-1 receptor (IC50: GLP-1 Gly8 [GG], 220±23 nM;
GLP-1 Gly8 Ex (31-39), 74±11 nM). Observations of the cAMP. . .
L7 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 2
TI Insertion of an N-terminal 6-aminohexanoic acid after the 7 amino acid
position of glucagon-like peptide-1 produces a long-acting hypoglycemic
agent
PY 2001
AU Doyle, Maire E.; Greig, Nigel H.; Holloway, Harold W.; Betkey, Jennifer
A.; Bernier, Michel; Egan, Josephine M.
SO Endocrinology (2001), 142(10), 4462-4468
CODEN: ENDOAO; ISSN: 0013-7227
AB . . . 7 and 8. The authors have compared the biol. activity of this
new compound, GLP-1 Aha8, with the previously described GLP-1
8-glycine (GLP-1 Gly8) analog. GLP-1 Aha8 (10 nM) was equipotent
with GLP-1 (10 nM) in stimulating insulin secretion in RIN 1046-38. . .
L7 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 3
TI Glucagon-like peptide-1 infusion must be maintained for 24 h/day to obtain

acceptable glycemia in type 2 diabetic patients who are poorly controlled on sulphonylurea treatment

PY 2001

AU Larsen, Jens; Hylleberg, Birgitte; Ng, Kevin; Damsbo, Peter

SO Diabetes Care (2001), 24(8), 1416-1421

CODEN: DICAD2; ISSN: 0149-5992

AB . . . 7 minus AUC for day 0 divided by 24 h) was statistically significantly different from placebo ($P \leq 0.001$). The GLP-1 8 ng · kg⁻¹ · min⁻¹ dose given for 24 h was more efficacious than any of the other doses (P. . .

L7 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN

TI N-Terminally modified GLP-1 derivatives

PY 1999
1999
2000
2002

IN Knudsen, Liselotte Bjerre; Huusfeldt, Per Olaf; Nielsen, Per Franklin; Madsen, Kjeld

SO PCT Int. Appl., 63 pp.

CODEN: PIXXD2

AB N-terminally modified derivs. of human glucagon-like peptide-1 (GLP-1), A-NH-GLP-1(8-B)-X [A is YCR2R3CHR1CO, YCR2R3CO, YCR2R3CH2, where R1, R2, R3 = H, alkyl, (un)substituted Ph, NH2, alkanamido, OH, alkoxy, halo, alkylsulfonyl, . . . group] or their analogs, were prepared for the treatment of obesity and insulin dependent or non-insulin dependent diabetes mellitus. Thus, Arg34,Ala8[N α -(imidazol-4-ylacetyl)],Lys26[N ϵ -(N γ -hexadecanoyl(γ -aminobutyroyl))]GLP-1 (8-37) was prepared via reaction of Arg34,Ala8[N α -(imidazol-4-ylacetyl)]-GLP-1 (8-37)-OH with N γ -hexadecanoyl- γ -aminobutyric acid succinimide ester.

L7 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 4

TI Structure-activity relationships of glucagon-like peptide-1(7-36)amide: insulintropic activities in perfused rat pancreases, and receptor binding and cyclic AMP production in RINm5F cells

PY 1994

AU Watanabe, Y.; Kawai, K.; Ohashi, S.; Yokota, C.; Suzuki, S.; Yamashita, K.

SO Journal of Endocrinology (1994), 140(1), 45-52

CODEN: JOENAK; ISSN: 0022-0795

AB . . . (Asp31) of GLP-1(7-36)amide with an amino acid of GH-releasing factor possessing only slight insulintropic activity, and three tentative antagonists including [Glu15]-GLP-1(8-36)amide. Their insulintropic activities were assessed by rat pancreas perfusion expts., and binding affinity to GLP-1 receptors and stimulation of cAMP. . . estimated as GLP-1(7-36)amide = Tyr16 > Lys18, Lys27 > Gly21 > Asp31 » Ser15, Arg17 > Ala10 » GRF > [Glu15]-GLP-1(8-36)amide. Displacement activity against 125I-labeled GLP-1(7-36)amide binding and stimulatory activity for cAMP production in RINm5F cells correlated well with their. . . to its binding to the receptor, although they are less important compared with those of the N-terminal half, and (3) [Glu15]-GLP-1(8-36) amide is not an antagonist of GLP-1(7-36)amide as opposed to des-His1 [Glu9] glucagon amide which is a potent glucagon antagonist.

L7 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 5

TI Glucagon-like peptide-I analogs: effects on insulin secretion and adenosine 3',5'-monophosphate formation

PY 1990

AU Gefel, Dov; Hendrick, Grant K.; Mojsov, Svetlana; Habener, Joel; Weir, Gordon C.

SO Endocrinology (1990), 126(4), 2164-8

CODEN: ENDOAO; ISSN: 0013-7227

AB . . . at 10-9 M and was as active as GLP-I-(7-37) at 10-8 M. GLP-I-(7-33) had no effect at any concentration tested. GLP-I-(8-37) had no effect on insulin release at 10-9 and 10-8 M, but did have an effect at the high concentration. . .

L12 ANSWER 2 OF 16 CAPLUS COPYRIGHT 2006 ACS on STN
 TI Methods of treating diabetes and other blood sugar disorders by glucagon-like peptide 1 gene or cell therapy for reducing serum triglycerides and reducing lipid accumulation in liver
 PY 2005
 IN Wadsworth, Samuel; Armentano, Donna; Gregory, Richard J.; Parsons, Geoffrey
 SO U.S. Pat. Appl. Publ., 70 pp.
 CODEN: USXXCO
 IT 99676-46-7, Prohormone convertase 141760-45-4, Furin
 RL: CAT (Catalyst use); USES (Uses)
 (GLP-1 fusion proteins containing **cleavage** site for; treating diabetes and other blood sugar disorders by glucagon-like peptide 1 gene or cell therapy for reducing serum triglycerides and reducing lipid accumulation in liver)
 IT 9041-92-3, α 1 Antitrypsin 75432-63-2, **Preproglucagon**
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (signal peptide from, fusion protein with GLP-1; treating diabetes and other blood sugar disorders by glucagon-like peptide 1 gene or cell therapy for reducing serum triglycerides and reducing lipid accumulation in liver)

L12 ANSWER 3 OF 16 CAPLUS COPYRIGHT 2006 ACS on STN
 TI Sequences of human glucagon-like 1 peptide (GLP-1) and use for treating diabetes and other blood sugar disorders
 PY 2004
 2004
 IN Wadsworth, Samuel C.; Armentano, Donna; Gregory, Richard J.; Parsons, Geoffrey
 SO U.S. Pat. Appl. Publ., 56 pp., Cont.-in-part of U.S. Ser. No. 215,272.
 CODEN: USXXCO
 AB . . . of a nucleic acid encoding a precursor GLP-1 wherein the precursor GLP-1 comprises a signal sequence which codes for precursor **cleavage** at the activation **cleavage** site of the precursor GLP-1.
 IT 99676-46-7, Prohormone convertase 141760-45-4, Furin
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (**cleavage**-site; sequences of human glucagon-like 1 peptide (GLP-1) and use for treating diabetes and other blood sugar disorders)
 IT 498592-31-7P 498592-32-8P 498592-33-9P 498592-34-0P
 RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (furin **cleavage** sit sequence; sequences of human glucagon-like 1 peptide (GLP-1) and use for treating diabetes and other blood sugar disorders)
 IT 9001-78-9, Alkaline phosphatase 9041-92-3 67763-96-6, Insulin like growth factor 1 75432-63-2, **Preproglucagon** 89468-62-2, Helodermin 141732-76-5, Exendin-4
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (signal peptide from; sequences of human glucagon-like 1 peptide (GLP-1) and use for treating diabetes and other blood sugar disorders)

L12 ANSWER 4 OF 16 CAPLUS COPYRIGHT 2006 ACS on STN
 TI Sequences of human glucagon-like 1 peptide (GLP-1) and use for treating diabetes and other blood sugar disorders
 PY 2003
 2005
 2005
 IN Wadsworth, Samuel C.; Armentano, Donna; Gregory, Richard J.; Parsons, Geoffrey
 SO PCT Int. Appl., 69 pp.
 CODEN: PIXXD2
 AB . . . of a nucleic acid encoding a precursor GLP-1 wherein the precursor GLP-1 comprises a signal sequence which codes for precursor **cleavage** at the activation **cleavage** site of the precursor GLP-1.
 IT 99676-46-7, Prohormone convertase 141760-45-4, Furin

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**cleavage**-site; sequences of human glucagon-like 1 peptide
(GLP-1) and use for treating diabetes and other blood sugar disorders)

IT 498592-31-7P 498592-32-8P 498592-33-9P 498592-34-0P
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**cleavage** site sequence; sequences of human
glucagon-like 1 peptide (GLP-1) and use for treating diabetes and other
blood sugar disorders)

IT 9001-78-9, Alkaline phosphatase 9041-92-3 67763-96-6, Insulin like
growth factor 1 75432-63-2, **Preproglucagon** 89468-62-2,
Helodermin 141732-76-5, Exendin-4
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(signal peptide from; sequences of human glucagon-like 1 peptide
(GLP-1) and use for treating diabetes and other blood sugar disorders)

L12 ANSWER 5 OF 16 CAPLUS COPYRIGHT 2006 ACS on STN
TI cDNA cloning of proglucagon from the stomach and pancreas of the dog
PY 2001
AU Irwin, David M.
SO DNA Sequence (2001), 12(4), 253-260
CODEN: DNSEES; ISSN: 1042-5179
ST cDNA sequence dog **preproglucagon** stomach pancreas; protein
sequence Canis dog **preproglucagon cleavage** peptide;
sequence glucagon GLP1 GLP2 peptide dog Canis; peptide GRPP glicentin
sequence Canis dog
IT Peptides, biological studies
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
(Biological study)
(GRPP (glicentin-related polypeptide); amino acid sequence of
preproglucagon from dog, and sequence of peptides (glicentin,
glucagon, GLP-1, GLP-2 and GRPP) resulting **cleavage** of
prepro)

IT Protein sequences
(of **preproglucagon** from dog, and sequence of peptides
(glucagon, GLP-1, GLP-2 and GRPP) resulting **cleavage** of
prepro)

IT 9007-92-5, Glucagon, biological studies 71567-77-6, Glicentin
89750-14-1, Glucagon-related peptide 1 89750-15-2, Glucagon-like peptide
2
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
(Biological study)
(amino acid sequence of **preproglucagon** from dog, and sequence
of peptides (glicentin, glucagon, GLP-1, GLP-2 and GRPP) resulting
cleavage of prepro)

IT 75432-63-2, **Preproglucagon**
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
(Biological study)
(amino acid sequence of **preproglucagon** from dog, and sequence
of peptides (glucagon, GLP-1, GLP-2 and GRPP) resulting
cleavage of prepro)

IT 16941-32-5, Glucagon (swine) 106612-94-6, 7-37-Glucagon-like peptide I
(human) 460090-22-6 460099-16-5 460112-05-4
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
(Biological study)
(amino acid sequence; of **preproglucagon** from dog, and
sequence of peptides (glicentin, glucagon, GLP-1, GLP-2 and GRPP)
resulting **cleavage** of prepro)

L12 ANSWER 6 OF 16 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 2
TI Distribution of pre-pro-glucagon and glucagon-like peptide-1 receptor
messenger RNAs in the rat central nervous system
PY 1999
AU Merchenthaler, Istvan; Lane, Malcolm; Shughrue, Paul
SO Journal of Comparative Neurology (1999), 403(2), 261-280
CODEN: JCNEAM; ISSN: 0021-9967
AB Glucagon-like peptide-1 (GLP-1) is derived from the peptide precursor
pre-pro-glucagon (PPG) by enzymic **cleavage** and acts via its

receptor, glucagon-like peptide-1 receptor (GLP-1R). By using riboprobes complementary to PPG and GLP-1R, we described the. . .

ST **preproglucagon GLP1 receptor brain**

IT Brain

(amygdaloid body; **preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain

(cerebral cortex; **preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain

(habenula; **preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain

(hippocampus; **preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain

(hypothalamus, preoptic area; **preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain

(hypothalamus; **preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain

(locus ceruleus; **preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain

(medulla oblongata, reticular nucleus, lateral; **preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain

(medulla oblongata, vagal nucleus, dorsal; **preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain

(medulla oblongata, ventral; **preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain

(midbrain, interpeduncular nucleus; **preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain

(nucleus accumbens; **preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain

(nucleus basalis of Meynert; **preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain

(nucleus tractus solitarii; **preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain

(olfactory bulb; **preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain

(parabrachial nucleus; **preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain

(postrema area; **preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain

Spinal cord

(**preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Glucagon-like peptide-1 receptors

mRNA

RL: BOC (Biological occurrence); BSU (Biological study, unclassified);

BIOL (Biological study); OCCU (Occurrence)

(**preproglucagon** and glucagon-like peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain
(raphe nucleus; **preproglucagon** and glucagon-like peptide-1
receptor mRNA distribution in rat central nervous system)

IT Brain
(septum pellucidum, lateral; **preproglucagon** and glucagon-like
peptide-1 receptor mRNA distribution in rat central nervous system)

IT Brain
(stria terminalis bed nucleus; **preproglucagon** and
glucagon-like peptide-1 receptor mRNA distribution in rat central
nervous system)

IT Brain
(substantia nigra; **preproglucagon** and glucagon-like peptide-1
receptor mRNA distribution in rat central nervous system)

IT Brain
(temporal cortex; **preproglucagon** and glucagon-like peptide-1
receptor mRNA distribution in rat central nervous system)

IT Brain
(ventral tegmental area; **preproglucagon** and glucagon-like
peptide-1 receptor mRNA distribution in rat central nervous system)

IT 75432-63-2, **Preproglucagon**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified);
BIOL (Biological study); OCCU (Occurrence)
(**preproglucagon** and glucagon-like peptide-1 receptor mRNA
distribution in rat central nervous system)

IT 89750-14-1, Glucagon-like peptide I
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**preproglucagon** and glucagon-like peptide-1 receptor mRNA
distribution in rat central nervous system)

L12 ANSWER 7 OF 16 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
TI Peptide hormone processing in tumours: Biogenetic and diagnostic
implications.
PY 1993
AU Rehfeld, J. F. [Reprint author]; Bardram, L.; Blanke, S.; Bundgaard, J.
R.; Friis-Hansen, L.; Hilsted, L.; Johnsen, A. H.; Kofod, M.; Luttichau,
H. R.
SO Tumor Biology, (1993) Vol. 14, No. 3, pp. 174-183.
ISSN: 1010-4283.

AB. . . bioactive peptides by multiple modifications during the transport
from the endoplasmic reticulum to secretory granules. The modifications
comprise different proteolytic **cleavages** and amino acid
derivatizations. By constitutive secretion, the processing is less
pronounced. The same prohormone may be expressed in several. . .

IT . . .
Sciences); Genetics; Metabolism; Molecular Genetics (Biochemistry and
Molecular Biophysics); Oncology (Human Medicine, Medical Sciences)

IT Chemicals & Biochemicals
PROENKEPHALIN A; **PREPROGLUCAGON**; GASTRIN

IT Miscellaneous Descriptors
GASTRIN SECRETION; GASTRINOMA; LIVER; LYMPH NODE METASTASES; MESSENGER
RNA; PEOPIOMELANOCORTIN; **PREPROGLUCAGON**; PROENKEPHALIN A;
TUMOR

RN 88402-54-4 (PROENKEPHALIN A)
75432-63-2 (**PREPROGLUCAGON**)
9002-76-0Q (GASTRIN)
144696-56-0Q (GASTRIN)

L12 ANSWER 8 OF 16 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 3
TI Multiple forms of glucagon-like peptide-1 and glucagon-like
immunoreactivities in canine gastrointestinal tract and their release into
circulation
PY 1990
AU Namba, Mitsuyoshi; Itoh, Hidehiko; Watanabe, Nobuaki; Kono, Norio;
Komatsu, Ryoya; Matsuyama, Tatsuo; Hirota, Meisei; Shima, Kenji; Tarui,
Seiichiro
SO Biomedical Research (1990), 11(4), 247-54
CODEN: BRES5; ISSN: 0388-6107
AB The distribution in the canine small intestine of glucagon-like peptide-1

(GLP-1) and glucagon-like immunoreactivities (GLI), coencoded by the mammalian **preproglucagon** gene, and their release into the regional mesenteric vein were investigated. GLP-1 immunoreactivity (GLP-1-IR) and GLI were present in high. . . of ≥ 4 different mol. forms. Evidently, the intestine stores and secretes GLP-1-IR and GLI with several mol. forms as the **cleavage** products of their common precursor, **preproglucagon**.

ST glucagon glucagonlike peptide metab intestine; **preproglucagon**
processing intestine

IT Pancreas, metabolism
(**preproglucagon** processing by)

L12 ANSWER 9 OF 16 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 4

TI Cell-specific post-translational processing of **preproglucagon**
expressed from a metallothionein-glucagon fusion gene

PY 1986

AU Drucker, Daniel J.; Mojsov, Svetlana; Habener, Joel F.

SO Journal of Biological Chemistry (1986), 261(21), 9637-43

CODEN: JBCHA3; ISSN: 0021-9258

TI Cell-specific post-translational processing of **preproglucagon**
expressed from a metallothionein-glucagon fusion gene

AB . . . of glucagon and 2 addnl. glucagon-like peptides (GLPs)
structurally related to glucagon and separated by intervening peptides.
Glucagon arises by **cleavage** from the prohormone within the A
cells of the pancreatic islets but in the intestine remains as part of a
partially processed precursor (glicentin). To determine whether addnl.
glucagon-like peptides are processed from **preproglucagon**
[75432-63-2] and to analyze for potential cellular specificity in the
processing of **preproglucagon**, a metallothionein-glucagon fusion
gene was introduced and expressed in a fibroblast and 2 endocrine
(pituitary and pancreatic islet) cell lines.. . . of the glucagon-like
and intervening peptides suggests their potential as new bioactive
peptides. The cellular specificity in the processing of
preproglucagon indicates that the genetic determinants of the
processing activity are complex and are expressed in a cell-specific
manner.

ST glucagon metallothionein fusion gene processing; **preproglucagon**
processing

IT Molecular cloning
(of metallothionein-glucagon fusion gene, in fibroblast and endocrine
cell line, **preproglucagon** cell-specific post-translational
processing in relation to)

L12 ANSWER 10 OF 16 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 5

TI Isolation and structure of the principal products of
preproglucagon processing, including an amidated glucagon-like
peptide

PY 1986

AU Andrews, P. C.; Hawke, David H.; Lee, Terry D.; Legesse, Kassu; Noe, Bryan
D.; Shively, John E.

SO Journal of Biological Chemistry (1986), 261(18), 8128-33

CODEN: JBCHA3; ISSN: 0021-9258

TI Isolation and structure of the principal products of
preproglucagon processing, including an amidated glucagon-like
peptide

AB The principal products derived from in vivo processing of anglerfish
preproglucagon II were isolated and their structures determined The
structures were confirmed by a combination of automated Edman degradation,
amino acid anal., and fast-atom bombardment mass spectrometry. The
peptide corresponding to anglerfish **preproglucagon** II-(22-49)
(numbering from the N-terminus of **preproglucagon**) was isolated
intact and defines the site of signal **cleavage** to be between
glutamine and methionine at positions 21 and 22, resp. Glucagon from the
anglerfish **preproglucagon** gene II corresponded to
preproglucagon II-(52-80) (numbering from the N-terminus). Three
forms of a glucagon-like peptide derived from **preproglucagon** II
was also isolated. The structure of the longest form was consistent with
the sequence of **preproglucagon** II-(89-122) deduced from the

cDNA. The C-terminal portion deduced from the cDNA remains intact in this form. A 2nd form, **preproglucagon** II-(89-119) appears to result from proteolytic processing of the major form at the 2 adjacent arginine residues occurring at the. . . C terminus. This 2nd form has a glycine residue at its C terminus and is processed to the 3rd form (**preproglucagon** II-(89-118)) which contains a C-terminal arginineamide. Radiolabeling studies in primary tissue culture supported the observation that glucagon (**preproglucagon** II-(52-80)), **preproglucagon** II-(89-122), and **preproglucagon** II (89-119) are products of proglucagon processing in vivo.

ST **preproglucagon** processing anglerfish
IT Anglerfish

IT 85446-04-4P 103345-94-4P 103842-32-6P 104040-34-8P
RL: PRP (Properties); PREP (Preparation)
(isolation and amino acid sequence of, **preproglucagon** processing in relation to)

L12 ANSWER 11 OF 16 CAPLUS COPYRIGHT 2006 ACS on STN
TI Distribution of glucagon-like peptide I in canine and feline pancreas and gastrointestinal tract
PY 1986
AU Vaillant, Camille R.; Lund, P. Kay
SO Journal of Histochemistry and Cytochemistry (1986), 34(9), 1117-21
CODEN: JHCYAS; ISSN: 0022-1554

AB . . . tissue from dogs with canine pancreatic acinar atrophy. Northern blot anal. of mRNA from the latter tissue, using a rat **preproglucagon** cDNA probe, revealed a single mRNA species similar in size to the **preproglucagon** mRNA detected in fetal rat pancreas. The 3 antigenic determinants of pancreatic proglucagon were colocalized also in intestinal L-cells and. . . the GLP I sequence is not liberated from pancreatic proglucagon, the possibility exists that this putative hormone may be a **cleavage** product of proglucagon in the gastrointestinal tract.

L12 ANSWER 12 OF 16 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 6
TI Specific glucagon-related peptides isolated from anglerfish islets are metabolic **cleavage** products of (pre)proglucagon-II
PY 1986
AU Noe, Bryan D.; Andrews, Philip C.
SO Peptides (New York, NY, United States) (1986), 7(2), 331-6
CODEN: PPTDD5; ISSN: 0196-9781

TI Specific glucagon-related peptides isolated from anglerfish islets are metabolic **cleavage** products of (pre)proglucagon-II
AB Sequence analyses of cDNAs prepared from anglerfish islet mRNA have demonstrated the presence of mRNAs coding for 2 different **preproglucagons**, aPPGI and aPPG-II. Each of these precursors was predicted to contain 29- and 34-residue glucagon-related peptide as potential **cleavage** products. Recently, several glucagon-related peptides found in exts. of anglerfish islets have been isolated and characterized. To determine whether any of these peptides could be identified as metabolic **cleavage** products in anglerfish islets, differentially radiolabeled mol. weight 2500-8000 peptides from islet exts. were subjected to reverse-phase HPLC under varying conditions. The potential **cleavage** products aPPG-II[52-80] and aPPG-II[89-122] could be readily identified among the extract peptides. Both peptides became labeled appropriately (as predicted from. . . 3rd peptide (aPPG-II[89-119]) could be found among the labeled products in small amts. only. Thus, glucagon-II[52-80] and aGLP-II[89-122] are primary **cleavage** products of aPPG-II aGLP-IIc[89-119] may be a peptide generated more slowly by posttranslational modification of aGLP-II.

ST anglerfish islet **preproglucagon** II processing product;
proglucagon II processing product anglerfish islet; glucagon related peptide anglerfish **preproglucagon** processing
IT Anglerfish
((pre)proglucagon II metabolic **cleavage** products of pancreatic islets of)
IT Pancreatic islet of Langerhans

((pre)proglucagon II metabolic **cleavage** products of, of anglerfish)

IT 85446-04-4P 103345-94-4P 103842-32-6P

RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation) (formation of, in **preproglucagon** II processing by anglerfish pancreatic islet)

L12 ANSWER 13 OF 16 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 7

TI Molecular forms of glucagon-like peptides in man

PY 1985

AU George, S. K.; Uttenthal, L. O.; Ghigllione, M.; Bloom, S. R.

SO FEBS Letters (1985), 192(2), 275-8

CODEN: FEBLAL; ISSN: 0014-5793

AB Mol. forms of glucagon-like peptide (GLP) [96352-57-7] encoded by the human **preproglucagon** gene were analyzed by chromatog. combined with specific radioimmunoassays to the synthetic peptides. Whereas exts. of human pancreas and a glucagonoma contained a large proglucagon **cleavage** product possessing both GLP-1 [89750-14-1] and GLP-2 [89750-15-2] immunoreactivities, exts. of human intestine contained products corresponding to free GLP-1 and. . .

L12 ANSWER 14 OF 16 MEDLINE on STN DUPLICATE 8

TI Pre-proglucagon messenger ribonucleic acid: nucleotide and encoded amino acid sequences of the rat pancreatic complementary deoxyribonucleic acid.

PY 1984

AU Heinrich G; Gros P; Lund P K; Bentley R C; Habener J F

SO Endocrinology, (1984 Dec) 115 (6) 2176-81.

Journal code: 0375040. ISSN: 0013-7227.

AB . . . which include GH-releasing hormone, vasoactive intestinal peptide, secretin, and gastric inhibitory peptide. The synthesis of glucagon involves its specific proteolytic **cleavage** from **preproglucagon**, a large polyprotein precursor. To facilitate analyses of the cellular processing of pre-proglucagon and to begin studies of the regulation. . .

CN 0 (Nucleotides); 0 (Protein Precursors); 0 (RNA, Messenger); 0 (**preproglucagons**)

L12 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 9

TI Pancreatic **preproglucagon** cDNA contains two glucagon-related coding sequences arranged in tandem

PY 1982

AU Lund, P. Kay; Goodman, Richard H.; Dee, Phillip C.; Habener, Joel F.

SO Proceedings of the National Academy of Sciences of the United States of America (1982), 79(2), 345-9

CODEN: PNASA6; ISSN: 0027-8424

TI Pancreatic **preproglucagon** cDNA contains two glucagon-related coding sequences arranged in tandem

AB Recombinant plasmids containing DNA complementary to the mRNA encoding a pancreatic **preproglucagon** [75432-63-2], a product of cell-free translation of angler fish islet mRNAs shown previously by immunopptn. analyses to be a precursor. . . The cDNA of 630, 180 and 120 base pairs were isolated and correspond to most of the mRNA for the **preproglucagon** (650 bases). The cDNAs contain a protein coding sequence of 372 nucleotides and 5'- and 3'-untranslated regions of 58 and. . . the sequence of glucagon was found to be identical to mammalian glucagon in 20 of 29 positions, resides in the **preproglucagon** of 124 amino acids flanked by N- and C-peptide extensions of 52 and 43 amino acids, resp. The peptide extensions. . . with glucagon and the other peptides of the glucagon family (gastric inhibitory peptide, vasoactive intestinal peptide, and secretin). Thus, the **preproglucagon** mRNA contains 2 glucagon-related coding sequences arranged in tandem. The finding of Lys-Arg sequences flanking the glucagon and glucagon-related sequences suggest that these 2 peptides and a pentapeptide are formed in vivo by posttranslational **cleavages** of a common precursor.

ST **preproglucagon** mRNA sequence Lophius; glucagon peptide sequence Lophius

IT Lophius americanus

(preproglucagon and mRNA-specifying, sequences of)
 IT Deoxyribonucleic acid sequences
 (preproglucagon mRNA complementary, of Lophius americanus)

L12 ANSWER 16 OF 16 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 10
 TI Pancreatic pre-proglucagons are encoded by two separate mRNAs
 PY 1981
 AU Lund, P. Kay; Goodman, Richard H.; Habener, Joel F.
 SO Journal of Biological Chemistry (1981), 256(13), 6515-18
 CODEN: JBCHA3; ISSN: 0021-9258

AB . . . for a peptide of 29 amino acids flanked by Lys-Arg sequences
 typical of those found at the sites of post-translational
 cleavages of hormone precursors. Twenty of the 29 amino acids in
 the sequence were identical with those found in the sequence. . . of
 bacterial colonies containing the cDNA for the 12,500-dalton precursor. Thus,
 2 sep. but partially homologous mRNAs encode the 2 preproglucagons

ST preproglucagon mRNA anglerfish; glucagon precursor mRNA Lophius;
 fish preproglucagon mRNA
 IT Lophius americanus
 (preproglucagon mRNA of, multiple forms of)

IT Ribonucleic acids, messenger
 RL: BIOL (Biological study)
 (preproglucagon-specifying, of anglerfish, multiple forms of)